

Serial No.: 10/777,343

Docket No.: ECV-5622CON

Preliminary Amendment dated June 21, 2005

Responsive to Office Action dated April 5, 2005

Amendments to the Claims:

The following is a complete listing of the claims and the status of each:

1. (Currently amended) A method of implanting an annuloplasty ring in a heart valve
5 annulus, comprising:
 providing a resilient annuloplasty ring having a relaxed diameter;
 stretching the annuloplasty ring to an expanded diameter commensurate with the
 diameter of a dilated heart valve annulus;
 maintaining the annuloplasty ring at its expanded diameter while attaching the
10 annuloplasty ring to the dilated heart valve annulus by using an attachment device to
 physically connect the annuloplasty ring to the annulus; and
 permitting the annuloplasty ring to contract inward from its expanded diameter so
 as to decrease the size of the attached heart valve annulus.
- 15 2. (Currently amended) The method of claim 1, wherein the resilient annuloplasty
ring comprises a resilient inner sizing member and an outer attachment sheath enclosing the sizing
member, ~~and wherein the step of attaching the annuloplasty ring to the dilated heart valve annulus~~
~~comprises using an attachment device to physically connect the attachment sheath to the annulus.~~
- 20 3. (Original) The method of claim 2, wherein the attachment device comprises a
plurality of members positioned on the annuloplasty ring.
4. (Original) The method of claim 3, wherein the plurality of members is selected
from the group consisting of:
25 needles;
 barbs; and
 hooks.

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5. (Currently amended) The method of claim 3, wherein the material of the plurality of members is selected from the group consisting of:

stainless steel;

titanium; and

a nickel-titanium ~~Nickel-Titanium~~ alloy.

6. (Original) The method of claim 2, wherein the attachment device comprises at least one suture, and wherein the step of attaching the annuloplasty ring to the dilated heart valve annulus comprises passing the suture through the attachment sheath and through the heart valve annulus.

7. (Original) The method of claim 2, wherein said outer attachment sheath is selected from the group consisting of:

biologically compatible fabric mesh;

polyethylene terephthalate;

polyester knit;

PTFE knit; and

ePTFE knit.

8. (Original) The method of claim 2, wherein said outer attachment sheath comprises a medicament to induce tissue growth.

9. (Original) The method of claim 1, wherein the method further comprises limiting contraction of the annuloplasty ring to a contracted diameter that is larger than the relaxed diameter.

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10. (Currently amended) The method of claim 9 7, wherein the annuloplasty ring includes a resilient inner sizing member and a series of support members positioned on the inner sizing member, and wherein the step of limiting contraction is accomplished by engagement of the support members with one another.

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11. (Currently amended) The method of claim 10 8, wherein each support member comprises a body member having a lumen formed therein, said lumen being capable of receiving the sizing member therein.

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12. (Currently amended) The method of claim 2 4, wherein said resilient inner sizing member comprises a biologically compatible elastomer.

13. (Original) The method of claim 1, wherein the step of maintaining the annuloplasty ring at its expanded diameter comprises positioning the annuloplasty ring on an insertion device.

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14. (Currently amended) The method of claim 13 44, wherein the annuloplasty ring is positioned on the insertion device at the time of manufacture.

15. (Currently amended) The method of claim 13 44, wherein the annuloplasty ring is positioned on the insertion device immediately prior to implantation.

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16. (Currently amended) A method of implanting a self-molding annuloplasty ring in a heart valve annulus, comprising:

providing a resilient annuloplasty ring having a relaxed diameter, the annuloplasty ring including a resilient inner sizing member and an outer attachment sheath;

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stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

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positioning the expanded annuloplasty ring on an insertion device;
delivering the insertion device and expanded annuloplasty ring to the dilated heart
valve annulus;

attaching the annuloplasty ring to the dilated heart valve annulus by using an
5 attachment device to physically connect the attachment sheath to the annulus; and
removing the insertion device so as to permit the annuloplasty ring to contract
inward from its expanded diameter and decrease the size of the attached heart valve
annulus.

10 17. (Canceled)

18. (Currently amended) The method of claim 16 15, wherein the attachment device
comprises a plurality of members positioned on the annuloplasty ring.

15 19. (Currently amended) The method of claim 18 16, wherein the plurality of members
is selected from the group consisting of:

needles;
barbs; and
hooks.

20 20. (Currently amended) The method of claim 18 16, wherein the material of the
plurality of members is selected from the group consisting of:

stainless steel;
titanium; and

25 a nickel-titanium ~~Nickel-Titanium~~ alloy.

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21. (Currently amended) The method of claim 16 ~~15~~, wherein the attachment device comprises at least one suture, and wherein the step of attaching the annuloplasty ring to the dilated heart valve annulus comprises passing the suture through the attachment sheath and through the heart valve annulus.

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22. (Currently amended) The method of claim 16 ~~14~~, wherein said outer attachment sheath is selected from the group consisting of:

biologically compatible fabric mesh;

polyethylene terephthalate;

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polyester knit;

PTFE knit; and

ePTFE knit.

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23. (Currently amended) The method of claim 16 ~~14~~, wherein said outer attachment sheath comprises a medicament to induce tissue growth.

24. (Currently amended) The method of claim 16 ~~14~~, wherein the method further comprises limiting contraction of the annuloplasty ring to a contracted diameter that is larger than the relaxed diameter.

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25. (Currently amended) The method of claim 24 ~~22~~, wherein the annuloplasty ring further includes a series of support members positioned on the inner sizing member, and wherein the step of limiting contraction is accomplished by engagement of the support members with one another.

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26. (Currently amended) The method of claim 25 ~~23~~, wherein each support member comprises a body member having a lumen formed therein, said lumen being capable of receiving the sizing member therein.

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27. (Currently amended) The method of claim 16 ~~14~~, wherein said resilient inner sizing member comprises a biologically compatible elastomer.

5 28. (Currently amended) The method of claim 16 ~~14~~, wherein the annuloplasty ring is positioned on the insertion device at the time of manufacture.

29. (Currently amended) The method of claim 16 ~~14~~, wherein the annuloplasty ring is positioned on the insertion device immediately prior to implantation.

10 30. (New) A method of implanting an annuloplasty ring in a heart valve annulus, comprising:

providing a resilient annuloplasty ring having a relaxed diameter;

15 stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

maintaining the annuloplasty ring at its expanded diameter while attaching the annuloplasty ring to the dilated heart valve annulus;

permitting the annuloplasty ring to contract inward from its expanded diameter so as to decrease the size of the attached heart valve annulus; and

20 limiting contraction of the annuloplasty ring to a contracted diameter that is larger than the relaxed diameter.

31. (New) The method of claim 30, wherein the annuloplasty ring includes a resilient inner sizing member and a series of support members positioned on the inner sizing member, and
25 wherein the step of limiting contraction is accomplished by engagement of the support members with one another.

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32. (New) The method of claim 31, wherein each support member comprises a body member having a lumen formed therein, said lumen being capable of receiving the sizing member therein.

5 33. (New) A method of implanting an annuloplasty ring in a heart valve annulus, comprising:

providing a resilient annuloplasty ring having a relaxed diameter;

stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

10 maintaining the annuloplasty ring at its expanded diameter while attaching the annuloplasty ring to the dilated heart valve annulus, wherein the annuloplasty ring is maintained at its expanded diameter by positioning the annuloplasty ring on an insertion device at the time of manufacture; and

15 permitting the annuloplasty ring to contract inward from its expanded diameter so as to decrease the size of the attached heart valve annulus.

34. (New) A method of implanting an annuloplasty ring in a heart valve annulus, comprising:

20 providing a resilient annuloplasty ring having a relaxed diameter,

stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

25 maintaining the annuloplasty ring at its expanded diameter while attaching the annuloplasty ring to the dilated heart valve annulus, wherein the annuloplasty ring is maintained at its expanded diameter by positioning the annuloplasty ring on an insertion device immediately prior to implantation; and

permitting the annuloplasty ring to contract inward from its expanded diameter so as to decrease the size of the attached heart valve annulus.

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35. (New) A method of implanting a self-molding annuloplasty ring in a heart valve annulus, comprising:

5 providing a resilient annuloplasty ring having a relaxed diameter, the annuloplasty ring including a resilient inner sizing member and an outer attachment sheath, wherein said outer attachment sheath is selected from the group consisting of:

biologically compatible fabric mesh;

polyethylene terephthalate;

polyester knit;

10 PTFE knit; and

ePTFE knit;

stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

positioning the expanded annuloplasty ring on an insertion device;

15 delivering the insertion device and expanded annuloplasty ring to the dilated heart valve annulus;

attaching the annuloplasty ring to the dilated heart valve annulus; and

20 removing the insertion device so as to permit the annuloplasty ring to contract inward from its expanded diameter and decrease the size of the attached heart valve annulus.

36. (New) A method of implanting a self-molding annuloplasty ring in a heart valve annulus, comprising:

25 providing a resilient annuloplasty ring having a relaxed diameter, the annuloplasty ring including a resilient inner sizing member and an outer attachment sheath, wherein said outer attachment sheath comprises a medicament to induce tissue growth;

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stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

positioning the expanded annuloplasty ring on an insertion device;

delivering the insertion device and expanded annuloplasty ring to the dilated heart valve annulus;

attaching the annuloplasty ring to the dilated heart valve annulus; and

removing the insertion device so as to permit the annuloplasty ring to contract inward from its expanded diameter and decrease the size of the attached heart valve annulus.

37. (New) A method of implanting a self-molding annuloplasty ring in a heart valve annulus, comprising:

providing a resilient annuloplasty ring having a relaxed diameter, the annuloplasty ring including a resilient inner sizing member and an outer attachment sheath;

stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

positioning the expanded annuloplasty ring on an insertion device;

delivering the insertion device and expanded annuloplasty ring to the dilated heart valve annulus;

attaching the annuloplasty ring to the dilated heart valve annulus;

removing the insertion device so as to permit the annuloplasty ring to contract inward from its expanded diameter and decrease the size of the attached heart valve annulus; and

limiting contraction of the annuloplasty ring to a contracted diameter that is larger than the relaxed diameter.

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38. (New) The method of claim 37, wherein the annuloplasty ring further includes a series of support members positioned on the inner sizing member, and wherein the step of limiting contraction is accomplished by engagement of the support members with one another.

5 39. (New) The method of claim 38, wherein each support member comprises a body member having a lumen formed therein, said lumen being capable of receiving the sizing member therein.

10 40. (New) A method of implanting a self-molding annuloplasty ring in a heart valve annulus, comprising:

providing a resilient annuloplasty ring having a relaxed diameter, the annuloplasty ring including a resilient inner sizing member comprising a biologically compatible elastomer and an outer attachment sheath;

15 stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

positioning the expanded annuloplasty ring on an insertion device;

delivering the insertion device and expanded annuloplasty ring to the dilated heart valve annulus;

attaching the annuloplasty ring to the dilated heart valve annulus; and

20 removing the insertion device so as to permit the annuloplasty ring to contract inward from its expanded diameter and decrease the size of the attached heart valve annulus.

25 41. (New) A method of implanting a self-molding annuloplasty ring in a heart valve annulus, comprising:

providing a resilient annuloplasty ring having a relaxed diameter, the annuloplasty ring including a resilient inner sizing member and an outer attachment sheath;

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stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

positioning the expanded annuloplasty ring on an insertion device at the time of manufacture;

5 delivering the insertion device and expanded annuloplasty ring to the dilated heart valve annulus;

attaching the annuloplasty ring to the dilated heart valve annulus; and

removing the insertion device so as to permit the annuloplasty ring to contract inward from its expanded diameter and decrease the size of the attached heart valve annulus.

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42. (New) A method of implanting a self-molding annuloplasty ring in a heart valve annulus, comprising:

providing a resilient annuloplasty ring having a relaxed diameter, the annuloplasty ring including a resilient inner sizing member and an outer attachment sheath;

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stretching the annuloplasty ring to an expanded diameter commensurate with the diameter of a dilated heart valve annulus;

positioning the expanded annuloplasty ring on an insertion device immediately prior to implantation;

20 delivering the insertion device and expanded annuloplasty ring to the dilated heart valve annulus;

attaching the annuloplasty ring to the dilated heart valve annulus; and

removing the insertion device so as to permit the annuloplasty ring to contract inward from its expanded diameter and decrease the size of the attached heart valve annulus.

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